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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/706,977  | 11/14/2003  | Tsutomu Okabe        | 245166US3CIP        | 7502             |
| 22850   | 7590        | 03/28/2005           | EXAMINER            |                  |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.<br>1940 DUKE STREET<br>ALEXANDRIA, VA 22314 |             |                      |                     | MOORE, KARLA A   |
| ART UNIT  |             | PAPER NUMBER         |                     |                  |
| 1763  |             |                      |                     |                  |

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                         |                     |
|------------------------------|-------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b>  | <b>Applicant(s)</b> |
|                              | 10/706,977              | OKABE ET AL.        |
|                              | Examiner<br>Karla Moore | Art Unit<br>1763    |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 09 April 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-4 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 13 November 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1103,0204.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the chamber must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 4 includes the recitation "wherein the flow rate of gas flowing the gas flow path is set so as to *maintain the pressure in the chamber higher than that of the mini-environment portion*". There is nothing described in the specification or illustrated in the drawings to describe how this is enabled. In each of the other pending claims and the specification a pressure relationship is described with respect to the interior of the mini-environment and the exterior of the mini-environment, only. No mention is made of a pressure relationship between the chamber and the mini-environment. From what the Examiner can tell from the specification and the drawings, the chamber is the inside of the mini-environment and this interpretation has been used for examination purposes. For all the other pending claims (1-3) of the presently claimed application, the chamber was considered to be the inside of the mini-environment. This definition is in agreement with Applicant's minimal description thereof in the specification. However, for claim 4 this definition does not work and thus the claim is not enabled.

4. Claims 2 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claims 2 and 4 each recite the limitation "the inner space of the clean box". There is insufficient antecedent basis for this limitation in the claim.

#### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication No. 2002/0064439 A1 to Otaguro in view of U.S. Patent No. 6,473,993 to Tokunaga.

9. Otaguro discloses a wafer processing apparatus in Figures 1-6 substantially as claimed and including a clean-environment portion having a chamber (200; paragraph 30) therein that is pressurized to a pressure higher than that of the exterior thereof (see paragraph 48) and used for transferring a wafer between a clean box (10) having a lid (13) and housing the wafer and the chamber, said apparatus comprising: a first opening portion (22) which is formed on part of a wall comprising the chamber to be communication with the chamber, facing to an opening of the clean box so as to allow loading and unloading the wafer between the clean box and the clean-environment portion; and a door (23) that closes, when the transfer of the wafer is not performed, the first opening portion and opens, when the transfer of the wafer is performed, wherein a gas flow path from the chamber to the exterior of the clean-environment portion is formed such that a flow rate of a gas flowing from the chamber to the exterior of the clean-environment portion in the case that the wafer transferring operation is not performed becomes substantially equal to a flow rate of gas coming out from a space formed from the chamber and the clean box in the case that the wafer transferring operation is performed. By providing aperture 52, the above described flow pattern is enabled, because communication is always present, regardless of whether the door is opened or closed.

10. However, Otaguro fails to teach the clean-environment as a mini-environment.

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11. Tokunaga discloses the use of a mini-environment for the purpose of holding wafers in an enclosed space to thereby protect the wafers from dust particles in the atmosphere or from chemical contamination (column 1, rows 53-56 and column 2, rows 36-40)

12. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a mini-environment in Otaguro in order to hold wafers in an enclosed space to thereby protect the wafer from dust particles in the atmosphere or from chemical contamination as taught by Tokunaga.

10. With respect to claim 2, in Otaguro, a gas flow path of the gas flowing out from the space formed from the chamber and clean box in a case that the wafer transferring operation is performed includes a space formed around the opening of the clean box (see paragraph 46).

11. With respect to claim 3, in Otaguro, a gas flow path of the gas flowing out from the chamber to the exterior of the clean-environment portion in case that the wafer transferring operation is not performed includes an aperture (52) formed when the door closes the first opening portion (see Figure 1).

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USP 6,530,736 discloses a positionable loading assembly. U.S. Patent Publication No. 2004/0069409 to Wu et al. teach a dust-proofing device that creates a gas flow parallel to the opening of a clean box and does not enter the clean box for preventing the entrance of micro-particles and air into the mini-environment (load lock area) for the purpose of saving processing time and gas, thus increasing overall productivity.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 571.272.1440. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571.272.1435. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Karla Moore  
Patent Examiner  
Art Unit 1763  
7 March 2005